

Application Serial No.: 10/711,082
Attorney Docket No.: BUR920040065US1

CLAIMS

1. (Original) A communication system comprising:
 - (a) a microelectronics chip comprising a power distribution network;
 - (b) a transmitter operatively configured to generate a communication signal and provide said communication signal to said power distribution network; and
 - (c) a receiver operatively configured to receive said communication signal from said power distribution network.
2. (Original) A communication system according to claim 1, wherein said power distribution network comprises a wire grid.
3. (Currently amended) A communication system according to claim 1, wherein said transmitter comprises a current synth-sink transmitter.
4. (Original) A communication system according to claim 1, wherein said power distribution network operates on a direct current power voltage.
5. (Original) A communication system according to claim 4, wherein said communication signal is superimposed on said direct current power voltage.
6. (Original) A communication system according to claim 1, wherein said power distribution network has a power voltage, said power voltage having a value not greater than 10 volts.
7. (Original) A communication system according to claim 4, wherein said communication signal has a base frequency that corresponds to the peak impedance of said direct current power voltage.
8. (Original) A communication system according to claim 1, wherein said communication signal comprises a spread spectrum signal.
9. (Original) A communication system according to claim 1, wherein said microelectronics chip comprises one or more voltage islands.
10. (Original) A communication system according to claim 9, wherein said communication signal differs on at least two of said one or more voltage islands.

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11. (Currently amended) A communication system according to claim 1, comprising a plurality of microelectronics chips, wherein said communication signal travels across from a first one of said plurality of microelectronics chips to a second one of said plurality of microelectronics chips.
12. (Original) A communication system according to claim 1, wherein said microelectronics chip comprises said transmitter and said receiver.
13. (Original) A communication system according to claim 1, further comprising a power data switch segmenting said power distribution network into a plurality of power distribution network segments and operatively configured to control routing of said communication signal amongst said plurality of power distribution network segments.
14. (Original) A communication system according to claim 1, wherein said microelectronics chip comprises a core.
15. (Currently amended) A communication system comprising:
 - (a) a power distribution network operating on direct current, said power distribution network being part of a microelectronics chip;
 - (b) a transmitter operatively configured to generate a communication signal and provide said communication signal to said power distribution network; and
 - (c) a receiver operatively configured to receive said communication signal from said power distribution network.
16. (Canceled)
17. (Currently amended) A communication system according to claim 15, comprising:
 - (a) a power distribution network operating on direct current, wherein said power distribution network has having a power voltage, said power voltage having a value not greater than 10 volts;
 - (b) a transmitter operatively configured to generate a communication signal and provide said communication signal to said power distribution network; and
 - (c) a receiver operatively configured to receive said communication signal from said power distribution network.
18. (Original) A method of communicating in an integrated circuit, the method comprising:
 - (a) generating a communication signal;

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(b) providing said communication signal to a first location on a power distribution network of a microelectronics chip; and

(c) receiving said communication signal from a second location on said power distribution network.

19. (Original) A method according to claim 18, said power distribution network has a power voltage, said power voltage having a value not greater than 10 volts.

20. (Original) A method according to claim 18, wherein said power distribution network operates on a direct current power voltage.

21. (New) A communication system according to claim 17, wherein said power distribution network is part of a microelectronics chip.

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